

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
2019 World Radiocommunication)	IB Docket No. 16-185
Conference Advisory Committee)	

COMMENTS OF 5G AMERICAS

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5G Americas (“5G Americas”) is the leading industry association in the Americas representing the 3GPP family of technologies, including LTE, LTE Advanced and beyond to 5G.¹ As the Voice for 5G and LTE in the Americas, 5G Americas advocates for the advancement of the 3GPP family of mobile broadband technologies in North, Central, South America and the Caribbean. 5G Americas submits these comments to support the Federal Communications Commission’s WRC Advisory Committee’s recommendation for a U.S. Preliminary View on Agenda Item 1.13, WAC Document 013 (“WAC/013”). Not only will the Commission’s support of that proposed Preliminary View during reconciliation with other U.S. agencies best align with the Commission’s ongoing proceeding in *Spectrum Frontiers*, but support of the WAC’s Preliminary View on AI 1.13 will best position our Region to continue to lead globally in the wireless revolution.

¹ The 5G Americas Board of Governors members include América Móvil, AT&T, Cable & Wireless Communications, Cisco Systems, CommScope, Entel, Ericsson, HP Enterprise, Intel Corporation, Kathrein, Mitel, Nokia, Qualcomm, Sprint, T-Mobile USA, and Telefónica.

I. Introduction

On October 25, 2016, the Commission issued a Public Notice requesting public comment on the recommendations approved by its Advisory Committee for the 2019 World Radiocommunication Conference (the “WAC”) at the WAC’s October 24th meeting.² The United Nations’ International Telecommunication Union is hosting a World Radiocommunication Conference in November 2019 (“WRC-19”) on global spectrum allocations, and the Commission’s private sector advisory council, the WAC, was chartered earlier this year to provide its expert advice to the Commission on positions relative to the WRC-19 agenda. These WAC recommendations can then be referenced by the Commission during interagency consultations on U.S. positions for WRC-19 agenda items. At its October 24, 2016 meeting, the WAC adopted a number of Recommendations for the Commission on what the U.S. preliminary views should be on various WRC-19 agenda items, prior to the Organization of American States Committee on International Communications (“CITEL”) Permanent Consultative Committee II on radiocommunications (PCC-II) meeting later this month.³

Among the WAC proposed preliminary views on WRC-19 agenda items is WAC/013 on agenda item 1.13, which provides *to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 238 (WRC-15).*

² *FCC Seeks Comment on Recommendations Approved By the Advisory Committee for the 2015 World Radiocommunication Conference*, Public Notice, DA 15-604, IB Docket No. 04-286 (rel. May 21, 2015).

³ As an association focused on the deployment of the 3GPP family of technologies across the Americas, 5G Americas has prepared a number of papers specifically focused on regulatory issues for CITEL members, including *Telehealth in Latin America* (2016), *Analysis of ITU Spectrum Recommendations in Latin America* (2016), and *Digital Adoption in Latin America: The Role of Infrastructure Deployment and Other Policies in the Region*, available at www.5GAmericas.org.

Resolution 238 lists a number of bands in millimeter wave spectrum, ranging across 24-86 GHz that align with the bands the Commission adopted rules for this past July, and for which it has proposed rules. 5G Americas supports the Commission's proposal for flexible use in the additional bands.⁴ 5G Americas supported the prior cycle's WAC proposal to have an agenda item agreed at WRC-15 on IMT spectrum above 6 GHz for study during the cycle leading to WRC-19, and is pleased to support the WAC's the proposed preliminary view to study millimeter wave spectrum for IMT 2020, known commonly in the marketplace as 5G, under Agenda Item 1.13. In 2014, consumers in North America used on average 1.89 GB of mobile data per month. By the time of WRC-19, consumers in North America are expected to use on average 11 GB of mobile data per month – more than five times the capacity from five years before.⁵ With that pace of growth, global study of additional bands for 5G is justified. Given our region's leadership in wireless,⁶ international study of these additional millimeter wave bands will allow our region to continue to lead globally in the broadband revolution.

II. Review of WAC Recommendation on Agenda Item 1.13

As noted above, WRC-19 agenda Item 1.13 is

⁴ See Comments of 5G Americas, GN Docket No. 14-177, et al. (filed Sept. 30, 2016).

⁵ See Press Release, *Cisco Visual Networking Index (VNI) Mobile Forecast Projects Nearly 10-fold Global Mobile Data Traffic Growth over Next Five Years*, Cisco (Feb. 3, 2015), available at <https://newsroom.cisco.com/press-release-content?articleId=1578507>.

⁶ See Press Release, *North America Hits 60% LTE Market Share*, 5G Americas (Sept. 8, 2016) (reporting that the penetration rate of LTE connections to the population of 364 million in North America reached 74 percent. This data compares to Western Europe at 39 percent penetration and Oceania, Eastern and Southeastern Asia with 35 percent penetration. In addition to having a penetration rate equivalent to the combined total of the next highest regions, the U.S. and Canada also have the highest market share for LTE in comparison to all mobile wireless technologies with 60 percent versus Oceania, Eastern and Southeastern Asia at 34 percent and 30 percent in Western Europe.), available at <http://www.5gamericas.org/en/newsroom/press-releases/north-america-hits-60-lte-market-share/#sthash.mMyQtPIG.dpuf>.

to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 238 (WRC-15).

Resolution 238 considers that IMT systems are being evolved to provide diverse usage scenarios for applications such as enhanced mobile broadband, massive machine-type communications, and ultra-reliable and low-latency communications. Resolution 238 further considers that ultra-low latency and very high bit rates of enhanced broadband and critical communications applications will require larger contiguous blocks of spectrum than are currently identified for IMT in the global Table of Allocations.⁷ Therefore, the Resolution and the associated agenda item 1.13 resolve to examine millimeter wave frequency for larger blocks of spectrum, as indeed the Commission has done in its July Order.⁸ 3GPP, 5G Americas members, and others in academia have been studying millimeter wave spectrum for several years. Noted researchers have concluded that millimeter wave is revolutionary in its high directionality, and ideal for 5G wireless when coupled with advanced, adaptive antenna techniques.⁹

The evolution to 5G is viewed competitively by many countries and mobile operators and vendors around the world. At the same time, there is a recognition by leading wireless associations that the regions of the world must coordinate if 5G is to reach its full potential for our respective countries' citizens. Various regional 5G promotional bodies have agreed to meet biennially at the 5G Global Event.¹⁰ 5G Americas is pleased to partner with wireless

⁷ See World Radio Communication Conference, Resolution 238, considering c) and d) (WRC-15).

⁸ *Id.* at considering e); *see also Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-89, GN Docket No. 14-177, et al., ¶¶ 454-455 (rel. July 14, 2016).

⁹ *See, e.g.,* M. Samimi, T.S. Rapaport, *3-D Millimeter-Wave Statistical Channel Model for 5G Wireless System Design*, IEEE Microwave Theory and Techniques, Vol. 64, no. 7, pp. 2207-2225 (July 2016); *see also* T.S. Rappaport, Keynote Address at the 5G Americas Technology Briefing, Washington, D.C. (Nov. 4, 2016).

¹⁰ *See, e.g.,* Press Release, *Leading 5G Wireless Associations Discuss Future Roadmap at The First Global 5G Event in Beijing, China*, 5G Americas (June 2, 2016), available at <http://www.4gamericas.org/en/newsroom/press-releases/leading-5g-wireless-associations-discuss-future->

associations in Asia and Europe to represent the Americas region, and will host the 5G Global Event in 2018. Because of the importance of global studies, to achieve internationally harmonized spectrum on a global or regional basis, 5G Americas supports the WAC's proposed preliminary view that the U.S. support study of all the bands listed in Agenda Item 1.13.

Under WAC/013, the proposed U.S. preliminary view for Agenda Item 1.13 is:

support studies under WRC-19 and take appropriate action based on the results of these sharing and compatibility studies in accordance with Resolution 238 in the following bands:

- *24.25-27.25 GHz, 37-40.5 GHz, 42.5-43.5 GHz, 45.5-47 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz, and 81-86 GHz, which have allocations to the mobile service on a primary basis; and*
- *31.8-33.4 GHz, 40.5-42.5 GHz, and 47-47.2 GHz, which may require additional allocations to the mobile service on a primary basis.*

The study of these bands aligns with the Commission's actions and proposed actions in its proceeding on bands above 24 GHz.¹¹ The U.S. has traditionally led at the International Telecommunication Union ("ITU") in the promotion of new technologies, largely because of the FCC's forward-leaning regulatory policies. The FCC adopting the WAC's proposed preliminary view in WAC/013 in its discussions with the other agencies will best position the U.S. to continue to lead in the ITU.

III. Conclusion

5G Americas thanks the Commission for requesting public comment on the WAC's Recommendations. The U.S. must continue to be a leader on broadband policy in our Region and globally. With respect to Agenda Item 1.13, 5G Americas advises the Commission to support WAC/013 during reconciliation with the State Department, Commerce and other

roadmap-first-global-5g-event-beijing-china/; *see also* 5G Global Update, *Global Organizations Forge New Frontier of 5G*, 5G Americas (July 2016), available at http://www.5gamericas.org/files/8714/6774/1431/Global_Organizations_Forge_New_Frontier_of_5G_Final.pdf.

¹¹ *See Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Erratum, GN Docket No. 14-177, et al. (rel. July 27, 2016), available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-340514A1.pdf.

agencies as the U.S. prepares its preliminary views on the WRC-19 agenda for the CITEL PCC.II meeting. A U.S. preliminary view that supports the study of all the millimeter bands for mobile broadband listed in agenda item 1.13 will best ensure that our region continues to lead in the wireless revolution.

Respectfully submitted,

A handwritten signature in black ink that reads "Chris Pearson". The signature is written in a cursive, flowing style.

Chris Pearson
President, 5G Americas